

## Further Studies on Pest-host Interaction in IPM of *Mythimna separata* (Walk.)

Muhammad ASHFAQ<sup>1)</sup>, Abrar AHMAD<sup>1)</sup>  
and Ghulam Mustafa CHEEMA<sup>2)</sup>

### Abstract

The leaves of 15 selected host plants viz., 'chulai' (*Amaranthus viridis* L.), 'dib' (*Typha angustata* L.), garlic (*Allium sativum* L.), gram (*Cicer arietinum* L.), khabbal' grass (*Cynodon dactylon* Pers.), korbooti' (*Euphorbia helioscopia* L.), lady's finger (*Hibiscus esculentus* L.), maize (*Zea mays* L.), makoh' (*Solanum nigrum* L.), onion (*Allium sepa* L.), potato (*Solanum tuberosum* L.), rice (*Oryza sativa* L.), sorghum (*Sorghum vulgare* Pers.), sugarcane (*Saccharum officinarum* L.) and water grass (*Phragmites karka* L.) were offered as food to 4th instar larvae of *Mythimna separata* (Walk.) to find out consumption and coefficient of utilization and were correlated here with the chemical plant factors.

Keeping all the results presented here in this study in view, it is concluded that Khabbal grass (296.32 mg consumption and 66.67% coefficient of utilization) was found to be a suitable alternate host for rice crop (282.70 mgs consumption and 70.57% coefficient of utilization) whereas 'dib' was found to be a suitable (123.74 mgs consumption and 57.49% coefficient of utilization) alternate host for potato (120.79 mgs consumption and 54.33% coefficient of utilization) and Lady's finger (109.79 mg consumption and 49.28% coefficient of utilization) of all calcium, magnesium and fat contents showed negative and significant correlation both with consumption as well as coefficient of utilization values. The R<sup>2</sup> values were 0.852 and 0.847 for consumption and coefficient of utilization, respectively.

Key words: Pakistan, food preference, armyworm, chemical factors

### Introduction

Armyworm, *Mythimna separata* (Walk.) is one of the most serious pest of cereals in Asia. It has been attacking plants of 33 species in 8 families resulting in heavy crop losses (SHARMA and DAVIS, 1983). Complete reliance has been made on pesticides for the control of this notorious cereal pest resulting in the disturbance of natural fauna. With the recent advances in the plant physiology, biochemistry and insects behaviour, it has become possible to determine the physiological and biochemical nature and causes of the plant immunity and resistance. A few attempts on the line by various scientists in scattered form, however, were carried out by RAMDEV and RAO (1979), BERNAYS (1982), ELAIDI and AKHTAR (1984), SURANI and ASHFAQ (1984), RAMAN and ANNADURAI (1985), BRAWER *et al.* (1987), HARE (1987), QAMAR (1990), CENTER and WRIGHT (1991), ALI (1993) and

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1) Entomology Department, University of Agriculture, Faisalabad, Pakistan.

2) Agriculture College, Bahauddin Zikaria University, Multan, Pakistan.

